Executive Summary

The Washington State Transportation Framework for GIS project (WA-Trans) is a statewide effort to develop a layer of multi-model transportation data that is location based. This means that data is needed from sources across the state and that long term maintenance must be performed on this data to keep WA-Trans a viable and useful product. Successful implementation of such a data set requires resolution of many issues in the organizational, cultural and technical categories. In order to get involvement of the largest set of potential players their needs for this product must be understood. In order to justify any significant involvement in data formatting, sharing and maintenance a business cost benefit justification must be performed. All of this is based upon a complete business needs assessment.

Process Used

Interviews were done with representatives from various organizations across the state to gather initial business needs. Business needs were documented from this process. There was some duplication as a result of semantic differences.   The initial document was taken to the WA-Trans Partners Group and the WA-Trans Steering Committee Group to acceptance and feedback. The Steering Committee determined that there were some missing or un-represented groups and an effort was made to reach out to those groups. Each business needs is uniquely numbered, titled, and described. The source of the business needs is identified, the generic business functions, which may share in the business need, are listed and the specific partners who may find a particular business need useful.

Summary Results

These results are summarized by generic business function. There are several business needs and potential business users not covered in this summary due to space limitations.

Transportation Planning: Statewide travel demand modeling using the complete transportation system and the ability to model various years for which data has been collected. This model facilitates development of the Highway System Plan, the 20 Year Transportation Plan and the STIP. This could facilitate true multi-modal analysis. Collision data across the state on all roads and railroad crossings can be analyzed in making decisions.

Environmental Analysis: Facilitates analysis of transportation features in a watershed with no boundary distinctions.   Provides data for impervious surface analysis, water crossing on transportation lines and looking at environmental data system wide in relationship to transportation projects. Facilitates communication and analysis of habitat along roadways.

Maintenance of Transportation Infrastructure: Allows for maintenance to analyze interfaces for drainage features data between various transportation agencies statewide. Analysis includes information about how these systems cross various multi-jurisdictional roads systems and affect those roadways. WA-Trans can facilitate maintaining an inventory of features along the roadway statewide. This data can be used for scoping transportation projects and support cross-jurisdictional maintenance service agreements. This data can also be used for rail projects and ferry projects.

Emergency Management and Response: Facilitates coordination of transportation during an emergency including analysis of routes into and out of a disaster area, route closures and detours, and transit organized to move people during a disaster. Facilitates emergency planning including determining infrastructure vulnerability assessment. If addresses are part of WA-Trans it can be used to support the FCC Phase II Mandate for Enhanced 911 emergency response across the state. Supports concept of "lifelines" and an ongoing project of King County Emergency Management to identify lifelines.

Transit and Public Transportation: Facilitate coordinated dispatch and scheduling for demand response rides for disables and needy individuals. Facilitates communication and analysis of park and rides and connecting routes. WA-Trans data is a necessary component of the Trip Planner Project both Oregon and Washington are working on.

Freight Mobility Planning and Management: Supports information regarding navigable waterways and port facilities. Much freight is transported by barge and rail as well as truck. There is traffic along the Columbia and Snake rivers, which would otherwise be shipped by truck or rail. Also facilitates analysis of geo-coded truck flows. Tracking truck traffic across the state including information about truck configurations, origins, destinations and specific routes can be used for highway planners and others.

Cross-governmental Communication: One of the main themes across business needs was the need for significantly better communication between agencies of the same level of government and between levels. Examples of this include communicating project plans between jurisdictions, particularly when there are coordination requirements, collecting and providing collision data to local jurisdictions and tribes via GIS for locating them, sharing bridge data sharing between various road authorities, communication activities along the roadway including utilities work and other work. This facilitates coordination of paving and other activities when done in the earlier planning stages.

Public Communication: Facilitates communicating projects to the public, without regard to jurisdictional boundaries, supports Puget Sound Traffic Flow Map being expanded beyond the state highway system. This would also support answering customer calls about activities on all roadways in a more coordinated manner.

Future Use

This data has been entered in a relational database and partners are prioritizing the business needs as well as identifying data needed to support the business needs. A determination is being made regarding what data is actually available so decisions can be made regarding what business needs to pilot and where pilot projects should be performed. Ultimately this information will be used to determine the scope of the various implementation phases of the project. This data will also be used to perform business cost/benefit analysis.

Introduction

This document outlines the business needs identified for the Washington Transportation Framework Project (WA-Trans). It provides high-level context information and then business needs in enough detail that business requirements may then be derived. The needs are identified by the function, which will use them. The documentation includes the source of the identified need as well as the specific partners who may share the need or contribute to meeting the need. Business needs are defined as economic drivers for participating in the activity of developing WA-Trans. They also are beneficial outcomes of WA-Trans if it is designed to facilitate meeting the various business needs

Background

The transportation framework is one theme of the total framework concept. In the 1990s it was recognized that the cost of producing Geographical Information Systems (GIS) data was prohibitively high and that duplicate data was proliferating. In an effort to be more efficient the framework concept was born for GIS in the Federal Geographic Data Committee (FGDC) of the United States Geological Survey (USGS). There are several themes, of which transportation is one. Other themes identified by the FGDC include elevation and bathymetry, hydrography, geodetic control, cadastral, government units and orthoimagery. The goal is for these themes to work together to provide a complete picture of the geographic data.

The Washington Geographic Information Council (WAGIC) has sponsored efforts to work on specific themes in the state of Washington. Efforts have been made in the cadastral, hydrography and orthoimagery themes. The transportation effort is not a new one, but it has new momentum with a full-time project manager and a new effort at formally defining business needs, requirements and functional specifications. This document defines business needs.

Vision

The Washington State Transportation Framework is a seamless set of data that are consistent, connected, and continuous between segments of the transportation framework and with other framework layers. The transportation framework represents the best data available and includes mechanisms to improve over time. Framework data is accessible to the general public at the least cost with the least restrictions.

Business Opportunity

It is expected that this document will completely outline the different business opportunities. These opportunities can be divided into specific business functions. Functions which derive a business opportunity for the transportation framework include: Transportation Planning, Emergency Management Planning, Emergency Management Routing, Transportation Project Scoping, Transportation Project Design, Transportation Project Construction, Transportation Operations, Transportation Maintenance, Emergency First Response, Environmental Impact Analysis, Freight Routing, the Trip Planner Project and others. WA-Trans will allow for sharing of data and reduce the duplication of data. It will also facilitate data consistency across the state.

Value Provided to Customer

The customer will have access to data regarding various modes of transportation including roads, rails, airports, ferry terminals and routes and ports for the whole state. They will have the ability to attach their own data to this so they can see their data in relationship to the statewide transportation systems. The customer will be able to rely on transportation data outside their own jurisdiction when developing applications. The framework will provide a standard, which will facilitate data exchange. The ability to do this exchange will increase business opportunity and reduce costs of duplicate data production and data inconsistency.

Business Risk

A complete separate risk assessment is being developed and maintained. Some key risks include: Lack of stakeholder participation leading to a standard and framework that won't be used, lack of resources and funding at key stages to complete the work, making the framework serve too many specialized functionalities, thus leading to high risk of failure or a framework which is too specialized to be universally useful. There are many other risks that are included in the risk assessment. The major risk of not developing this framework is the significant cost of duplication of data, the costs resulting from incorrect data, and the lost opportunity of being unable to utilize cross jurisdictional data in a cost effective manner for applications.

Assumptions

1. Sufficient partners representing data providers and data users participate in the project. The exact number is uncertain, but there should be a representative participation from the various groups who will be primary data providers and/or primary business users of the product.
2. Funding and resources are available from partner organizations for a project manager, data modeling, software development and maintenance.
3. Key staff resources with the necessary technical ability are available and can be scheduled to complete project tasks. While it is not yet possible to completely define the technical ability required it is assumed that when this is defined the ability will exist to provide or acquire these resources.
4. Agreement can be reached on a common data model.
5. Agreement can be reached on a common linear referencing system if one is needed.
6. Technical capabilities of the software, hardware, and resources are available to support business needs.
7. A phased approach will be utilized to develop the framework incrementally.
8. Existing infrastructure will be used to make transportation framework data accessible.
9. The transportation framework project and other framework projects will be coordinated.
10. The first implementation of the framework will be simple and a plan will exist for increasing complexity and functionality over time.

11. Sufficient business value will be discovered and documented to compel participation in building, using and maintaining the WA-TRANS.
12. Pilot test results will represent the statewide situation enough to use these results to determine approaches.
13. When pilots are successful the results will become part of the framework implementation.
14. Negotiation, compromise and facilitation will be utilized to arrive at implementation priorities. Funding source may be considered a key issue in deciding such priorities.
15. A steering committee will be organized for the project that will have the authority in their individual organizations to access resources and possibly funds to assist with the various phases of the project. The size of this steering committee will be dependant upon what is required to get adequate representation for different business areas. However at this time it is hoped that steering committee will be limited to 13 members including the project manager.
16. Membership of the steering committee may change as phase deliverables change.
17. The steering committee will be able to participate to the level of providing detailed analysis and decision-making about business requirements, functional requirements and prioritization of requirements. The steering committee will also be available at least once a month for meetings in order to facilitate change management and issue management.
18. The steering committee will be representative of the Washington Transportation Framework Stakeholder Group.
19. The steering committee will be small enough to facilitate effective decision-making.
20. Any project plans for implementation will include plans and funding sources for maintenance of what is implemented.
21. WAGIC and FMG will assist with pursuing funding.

Scope and Limitations

Scope of the Initial Release

To be determined by the WA-Trans Steering Committee.

Scope of Subsequent Releases

To be determined by the WA-Trans Steering Committee.

Limitations and Exclusions

To be determined by the WA-Trans Steering Committee.

Customer Profiles

The project has various customers, which have been identified. There have been several customer categories identified. However, this data has wide usefulness and many potential customers may remain unidentified. Specific customers participating or providing input to this document both outside and in WSDOT are identified. Customers identified so far include:

Federal Agencies include:

> US Bureau of Land Management,
> US Bureau of Indian Affairs
> US Census Bureau,
> Federal Highway Administration,
> US Forest Service,
> National Parks Service
> US Geological Survey.

Washington State Agencies and organizations include:

Center to Bridge the Digital Divide at WSU,
County Road Administration Board,
Department of Natural Resources,
Eastern Washington University Tribal Technical Assistance Program
Enhanced 911,
State Parks,
Utilities and Transportation Commission,
Washington Geographic Information Council (WAGIC),
Framework Management Group,
Strategic Freight Transportation Analysis Project (SFTA),
Freight Mobility Strategic Investment Board (FMSIB)
Information Services Board Geographic Information Technology Subcommittee
Department of Transportation (WSDOT),

Divisions or functions within WSDOT specifically interested at this time include:

Bridge Preservation Office,
Design Office,
Emergency Management Office,
Environmental Affairs Office,
Government Liaisons (Tribal Liaison),
Highways and Local Programs,
Interactive Transportation Systems (TRAC),
Program Management Office
Planning Office,
Public Transportation Office,
Rail Office,

Regional Project Engineers office (Scoping function),
Transportation Data Office (TDO),
Transportation Demand Management Office,
T2 Program,
Urban Corridors,
WSF Council for Disaster Planning,
WSF Terminal Engineering.

Tribal Nations include:

Jamestown S'Klallam Tribe,
Makah Tribe,
Muckleshoot Tribe,
Samish Tribe,
Stillaguamish Tribe,
Tulalip Tribe.

Local organizations include:

Association of Washington Cities,
Benton-Franklin Council of Government (COG),
City of Spokane,
City of Monroe,
City of Seattle (DOT and Public Utilities),
City of Tacoma,
Clallam County,
Clark County,
Community Transit (Snohomish County),
Douglas County,
Island County,
Ferry County,
King County Emergency Management,
King County Metro (T-Net Project),
Kitsap Transit,
Lewis County
Lincoln County,
Mason County,
Pend Orielle County,
Pierce County,
Port of Seattle,
Puget Sound Regional Council,
Spokane County,
Stevens County,
Thurston County,
Yakima County,
Walla Walla County,
Whatcom Council of Government (COG).

Private Organizations include:

Environmental Systems Research Institute Inc. (ESRI),
Longview Fibre,
Weston Solutions,
Washington Forest Protection Association.

Project Priorities

To be set by WA-Trans Steering Committee.

Project Success Factors

Establish broad participation.

Identify and recruit partners who:
Can identify a business case for investing in the transportation framework,
Represent a range of uses of the database,
Are needed to create full data coverage.

Establish standards, which enhance the will and ability of partners to collect and maintain the data.

Match the standard to the ability of the partners to collect and maintain the data.
Identify a standard which allows data quality to improve over time.
Identify funding incentives for partners to participate.

Provide the data needed to meet business and analytical needs.

Data must be:
Accurate.
Complete.
Not too complicated to use.
Described and documented.
Up-to-date.
Relevant to business and analytical needs.
Data must be digital
Formatted in open standard, relational structure
Able to be imported into commercial digital mapping systems.

Define a data model that partners agree meets their needs.

Identify business needs and functional requirements, and define the data needed to support them.
Examine existing data models.

Seek consensus agreement on the data model. Partners commit to achieving consensus.

Provide frequent and on-going communication of progress and decisions to partner organizations.

Identify the right standards and processes.

Identify standards and processes needed to meet business needs.

Examine existing standards and processes.

Identify standards and processes needed to facilitate integration of data from multiple sources.

Identify standards and processes, which facilitate maintaining the data long term.

Identify standards and processes that recognize the capabilities of existing technology to support the standards and processes.

Identify standards and processes that recognize the capabilities of existing technology to support the standards.

Provide tools for data integration, data access, and metadata.

Phased Development

Set the scope of phases to allow delivery of tangible products within a set time frame.

Use phases as a method of showing an effort and plan to meet all business needs while focusing on the ones, which can most realistically be met at the current time.

Business Needs

The business needs are defined as high level needs described in business terms. Each business needs is documented as follows:

Business Need: This is a number assigned to each business need. At this point these number are subject to change. When stakeholders approve business needs as substantially complete or correct a "permanent" number will be assigned with room to insert new numbers if needed.

Title: The title is a short descriptive name used to identify the need.

Description: This is a description of the business needs described in business language to be understandable to most who may read it. It includes enough detail to extract business requirements from.

Business Functions Using: This is a list of generic business functions that may use WA-Trans to assist in meeting this need. It is not defined by specific organizations.

Source: The provider of the original business needs identified.

Specific Partner Use: This is similar to the "Business Function Using" except it identifies a specific partner involved in WA-Trans who may find using WA-Trans to assist with meeting this need useful.

Business Need

1

Title

Communication of Survey Data

Description

Project Engineers involved in scoping and designing a project (transportation infrastructure) would like to know what areas have been surveyed by county and local governments and other parts of WSDOT and access to that data to avoid resurveying the same area.

Audience

WSDOT, County Governments, City Governments, Transit Organizations

Function

Public works, Transportation Construction Projects, Transit Organizations

Source

WSDOT Olympic Region Lacy Project Engineers Office

Business Need

2

Title

Future Plans for Transportation Infrastructure

Description

Organizations need to know the plans of other organizations regarding building or modifying transportation infrastructure including sidewalk plans as soon as they were estimated and this data needs to be geocoded. Information needs to include road segment or structure involved. This would facilitate communication and help planning in a more proactive and mutually supporting way.

Audience

WSDOT, Counties, Cities, E-911, Puget Sound Regional Council, Federal Highway Administration, Bureau of Census

Function

Public works, Transportation construction projects, Business developers, E-911, Transit organizations, Census related organizations

Source

WSDOT Olympic Region Lacey Project Engineers Office, WSDOT Environmental Affairs Office, WSDOT Olympic Region Highway and Local Programs Engineer, WSDOT Highways and Local Programs, WSDOT Ferry Terminal Engineering, City of Seattle Department of Transportation

Business Need

3

Title

Railroad Line Information

Description

A variety of information about rail lines is needed. Included in this is: track locations, Where tracks intersect roads, What type of crossing controls there are at intersection, Safety rating of intersection, Whether the track is abandoned or active, Location of rail bridges, tunnels and potential mud slides locations along railways, Ownership of rail lines (specific tracks). Where tracks intersect streams (BOC) Location of Inter-modal Loading Facilities (Truck-Rail, or Rail-Barge)

Audience

WSDOT, Counties, Cities, E-911, Puget Sound Regional Council, Bureau of Census,

Strategic Freight Transportation Analysis Project, Utilities and Transportation Commission

Function
Public works, Transportation construction projects, Planning, E-911, WSDOT Bridge Preservation Office, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Emergency Management, WSDOT Transportation Data Office, WSDOT Rail

Source
WSDOT Olympic Region Lacey Project Engineers Office, WSDOT Rail Office, WSDOT Bridge Preservation Office, Strategic Freight Transportation Analysis Project

Business Need
4

Title
Communication of Recently Completed Projects Along the Roadway

Description
Data on specific projects recently completed which could be queried by a specific time frame and location.

Audience
WSDOT, Counties, Cities, E-911, Puget Sound Regional Council, Federal Highway Administration, US Geologic Service

Function
Public works, Transportation construction projects, Business developers, Emergency response, Transit organizations

Source
WSDOT Olympic Region Lacey Project Engineers Office, WSDOT Urban Corridors Office, City of Seattle Department of Transportation

Business Need
5

Title
Routing

Description
There is a need for evaluating and mapping alternate routes for a variety of functions on all roads including county, city, state and private roads. This includes the need to buffer an affected area for analysis. This would be used for emergency management, traffic control, homeland security, freight congestion, infrastructure impact analysis and Transportation construction projects. There is also a need to communicate alternate routes to the public.

Audience
WSDOT, Counties, Cities, E-911, Freight Mobility Strategic Investment Board, Strategic Freight Transportation Analysis Project

Function
Public works, Transportation construction projects, Emergency management, Transit organizations, Military, Public utilities

Source
WSDOT Olympic Region Lacey Project Engineers Office, WSDOT Emergency Response, WSDOT Olympic Region Highway and Local Programs Engineer, WSDOT Ferry Terminal Engineering, City of Seattle Department of Transportation, Strategic Freight Transportation Anal

Business Need
6

Title
Impervious Surfaces Analysis Data

Description
Information that facilitates calculating impervious surfaces along existing roadways such as pavement type, surface area and other related things would assist with the impervious surface permits. There is additional data needed that may not be part of WA-Trans. This data is covered in the section of data needs from other frameworks.

Audience
WSDOT, Counties, Cities, Transit organizations, Freight Mobility Strategic Investment Board, Strategic Freight Transportation Analysis Project

Function
Public works, Transportation construction projects, Transit organizations

Source
WSDOT Environmental Affairs Office, City of Seattle Department of Transportation

Business Need

7

Title

Water Crossings Roadways

Description

Locations of water crossing on roadways including permanent and intermittent water including 100 year flows of streams and rivers. This data is used for scoping and design of highway projects. This may be considered hydro data but relates to culverts and bridges.

Audience

WSDOT, Counties, Cities

Function

Public works, Transportation construction projects, Environmental permitting organizations, Business developers

Source

WSDOT Environmental Affairs Office, WSDOT Design Office

Business Need

8

Title

Facilitates Collision Analysis using Transportation System

Description

There is a need to provide analysis of roadway collisions based upon the whole roadway system surrounding the incidents including off and on ramps, roads signals, and structures connecting to the roadway. May involve roads and infrastructure outside of a specific jurisdiction.

Audience

WSDOT, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Public Works, Emergency Management, Federal Highway Administration, Transit Organizations

Function

Transportation planning, Emergency response, Transit organizations

Source
WSDOT Olympic Region Highway and Local Programs Engineer

Business Need
9

Title
20-Year Transportation Plan Development

Description
Developing a 20-year plan involves using transportation plans data statewide as well as a variety of other data. This other data will be included in the data sections of this document.

Audience
WSDOT, Puget Sound Regional Council, County Road Administration Board, Counties, Cities, Freight Mobility Strategic Investment Board, Strategic Freight Transportation Analysis Project

Function
Transportation planners, Urban planners, Private developers, Government agencies, Program managers

Source
WSDOT Planning, WSDOT Olympic Region Highway and Local Programs Engineer, WSDOT Ferry Terminal Engineering

Business Need
10

Title
Tracking Activities along Transportation Network by Organizations without Jurisdictional Responsibility

Description
The specific need identified was stated as "Knowing when and where utilities plan to work so we can combine paving efforts." This can be extended into know plans regarding work on or alongside any transportation feature that is not being done by the

organization which generally maintains that feature.

Audience
WSDOT, Counties, Cities

Function
Public works, Maintenance and operations organizations

Source
WSDOT Olympic Region Highway and Local Programs Engineer

Business Need
11

Title
Communicating Improvements to the Roadway

Description
This was stated as a "need to know when another agency or developer makes improvements on a state highway system. This information is captured if the improvement is connected to an interstate or if they use WSDOT to award the contract. Otherwise the information isn't captured." This could be extended to needing to know when ANY organization makes an improvement to ANY road on the network. This actually encompasses maintenance, accuracy and timeliness of data.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, County Road Administration Board, Freight Mobility Strategic Investment Board, Strategic Freight Transportation Analysis Project

Function
Transportation planning, Project scoping, Project design, Road maintenance, Road operations, Urban planning, Business planning, Emergency management, Emergency response

Source
WSDOT Olympic Region Highway and Local Programs Engineer, WSDOT Transportation Data Office, City of Seattle Department of Transportation

Business Need

12

Title

Statewide Base Map to use in Communication

Description

There is a need for a statewide base map that extends beyond jurisdictional boundaries to illustrate scenic byways and provide communication for funding with the legislature, local partners, and the Federal Government.

Audience

WSDOT, Counties, Cities, Puget Sound Regional Council

Function

Planning, Program Management, Public Communications

Source

WSDOT Olympic Region Highway and Local Programs Engineer, WSDOT Program Management, WSDOT Rail Office

Business Need

13

Title

Coordination of Transportation During Emergencies

Description

In the Washington State Comprehensive Emergency Response Plan it is WSDOT's responsibility to coordinate all transportations (all modes, all routes) for the state. The Agency must collect information about closures and routing. During the Nisqually Quake the Governor asked for maps including alternate routes. There is a need for a method of collecting, storing and illustrating areas of closure and alternate routes. This requirement can be extended to include a mechanism for storing and communicating all closures in various situations including terrorist attacks, natural disasters or construction.

Audience

WSDOT, Counties, Cities, E-911, Emergency Management

Function

Emergency management, Emergency response, Transportation maintenance, Transportation operations, Transit organizations, Military

Source

WSDOT Emergency Response, WSDOT Council for Disaster Planning, King County Emergency Management

Business Need

14

Title

Transportation Infrastructure Vulnerability Assessment

Description

There is a need to perform vulnerability assessments on transportation infrastructure statewide based on critical risk. It must breakdown each feature by ownership, then functionality, and then relationship to other things (ex. emergency routes, etc.) It must look at multi-hazard vulnerabilities. Then an alternative analysis must be performed. WA-Trans could be the basis for such an assessment and used to continually update the assessment based on new risk models and new data.

Audience

WSDOT, Counties, Cities, Emergency Management

Function

Emergency management, Emergency response, Transportation operations, Transportation planning, Risk management

Source

WSDOT Emergency Response, WSDOT Council for Disaster Planning

Business Need

15

Title

Facilitate Bridge Data Sharing Between Various Road Authorities

Description

There is a variety of bridge data needed statewide. The WSDOT Bridge Preservation Office is federally mandated to report on bridges statewide. The extent of this mandate includes city, county, state and some privately owned bridges with public traffic. They are responsible for inspections on regular inventory, which includes big interchanges, bridges over dry gulches, other raised highways and anything over water and all tunnels. They are responsible for movables, and specialized structures such as the

Narrows and floating bridges. They need to know the following about bridges: Location of bridges and structures (tunnels, etc), Cross streets close to bridges, Stream or water body names, Proximity of bridge to railroad, Mechanism to share bridge inspection status, type, frequency, due dates, whether navigable water, location with counties and cities, Need structural bridge information from counties which shows up on statewide map Need information from local governments to assist in bridge prioritization for repair or retrofit in situation of disaster (ex. earthquake) where many may need to be repaired/retrofitted at once. Need information about egress routes into tribal lands and structures on them Need data from Federal Government about backcountry bridges for their inventory Cities and counties would like a better mechanism for sharing bridge data with WSDOT and better access to WSDOT data about bridges within their jurisdiction that they don't have jurisdiction over.

Audience
WSDOT, Counties, Cities, E-911, US Geological Survey, US Forest Service, US Bureau of Land Management

Function
Public works, Transportation maintenance, Transportation operations, Emergency management

Source
WSDOT Bridge Preservation Office, City of Seattle Department of Transportation

Business Need
16

Title
Facilitate Developing Travel Demand Forecasting Models

Description
Travel demand forecasting is a process of building models to use in decision support. Currently MPOs build their own models. WSDOT needs to build a model that would connect to their models. It would require information on local, county and state roads, rail, air, ferry and transit routes. This would be used for long range planning. It would also be useful in analysis of "environmental justice" issues with transportation planning.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Transit Organizations, Freight Mobility Strategic Investment Board, Strategic Freight Transportation Analysis Project

Function
Transportation planning, Urban planning, Business planning, Communication

Source
WSDOT Planning Office, WSDOT Environmental Affairs Office, Strategic Freight Transportation Analysis Project

Business Need
17

Title
Building the Highway System Plan

Description
The agency builds the Washington Transportation Plan periodically. Part of it is the Highway System Plan (HSP). Developing the plan involves collecting all transportation data from all modes and identifying deficiencies based on service objectives and outcome statements. Data collected includes project information, proposals, locations, deficiencies and segments. Ideally they would like to include data collected from locals and counties so they can develop corridor plans and raw development plans. There could be land issues, modeling needs, new development needs and local transportation circulation issues that come into plan. Delay and deficiencies are measured based on all of this information and then the plan is developed.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Transit Organizations, Strategic Freight Transportation Analysis Project, Federal Highway Administration

Function
Transportation planning, Urban planning, Business planning

Source
WSDOT Planning Office, Strategic Freight Transportation Analysis Project

Business Need
18

Title
Representations with bi-directional carriageways

Description
WSDOT Transportation Data Office locates features and other things along the

roadway. There is currently great inaccuracy because the roadway is represented with one centerline and the actual routes that are separated and different in each direction are not accurately represented and lead to bad data when locating features and other things along the roadway. They need bi-directional carriageways with measurements in each direction.

Audience
WSDOT, Counties, Cities, Strategic Freight Transportation Analysis Project

Function
Transportation planning, Project scoping, Project design, Communication, Transportation data collection, Public works, Transportation maintenance, Transportation operations

Source
WSDOT Transportation Data Office

Business Need
19

Title
Collecting Collision Data and Locations

Description
The WSDOT Transportation Data Office collects data and performs collision reporting and tracking where collisions occur on specific highways. Eventually WSP and other police vehicles will be outfitted with GIS to report the location of collisions. Data used for analysis about problems that cause collisions.

Audience
WSDOT, Counties, Cities, Transit Organizations, Washington State Patrol

Function
Transportation operations, Transportation maintenance, Transportation planning organizations, Transit organizations, Police, Emergency response

Source
WSDOT Transportation Data Office

Business Need
20

Title
Providing Collision Data to Local Governments

Description
The WSDOT Transportation Data Office provides traffic accident and collision data to counties. They also provide history at intersections of local and county roads with state routes. The provide data to MPOs and RTPOs for their models. All of this sharing could be facilitated through the Transportation Framework. Cities need this data.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Strategic Freight Transportation Analysis Project, Transit Organizations

Function
Transportation Planners, Public Works, Transit Organizations

Source
WSDOT Transportation Data Office, City of Seattle Department of Transportation

Business Need
21

Title
Work with HPMS/FC replacement

Description
The Highway Performance Monitoring System and Functional Classification Systems are maintained by WSDOT for the FHWA. This is database of all miles of public roads in the State. It is the basis for determining eligibility for Federal-aid funding for functional classification modifications and updates as well as the basis for designation of the National Highway system. WSDOT is mandated to maintain data about out all roads in both rural and urban areas and determine the functional usage of existing roads and streets. These systems get data from many of the partners that WA-Trans will. Aligning these systems with WA-Trans would prevent unnecessary duplication of data and effort. Collecting the same data once would facilitate sharing from local governments. There is an effort to replace them with a single system and this is where alignment might best be facilitated. This effort wants a functional class map, which shows all roads and road miles included in the functional classifications sent to the Federal Government. It is hoped that WA-Trans and HPMS/FC replacement will facilitate the exchange of road information between cities, counties and the State.

Audience
WSDOT, Counties, Cities, Federal Highway Administration, County Road Administration Board, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Strategic Freight Transportation Analysis Project

Function
Government transportation organizations

Source
WSDOT Transportation Data Office, City of Seattle Department of Transportation

Business Need
22
Title
Support the Trip Planner effort

Description
The WSDOT Public Transportation Office is working on an effort called "Trip Planner" that ultimately involves providing the public with information about what transportation options are available from one location to another. It involves routing, transit information and is anticipated to be web based. Initially the project focuses on getting information on fixed routes systems. Then it will work on getting information about demand response and other transportation. Eventually would become a doorstop-to-doorstop trip planner anywhere in the state. This project depends on a statewide base map with addressing and routing for multiple modes. The project will server all commuters who use public transportation and would be particularly useful to social services and others who plan transportation for ADA and low income individuals.

Audience
WSDOT, Kitsap Transit, Community Transit

Function
Social Services, Chamber of Commerce, Employment organizations, Commute Trip Reduction, Transit systems

Source
WSDOT Public Transportation Office, WSDOT Transportation Demand Management Office

Business Need

23

Title

Communicate and Analyze Transportation Features in a Watershed

Description

Environmental analysis frequently is done on the basis of a watershed, which is not always bounded by a single transportation jurisdiction. This analysis requires all transportation features to be included. This includes footpaths, bike trails, forest roads, and other less-used transportation features.

Audience

WSDOT, Counties, Cities, Washington Department of Natural Resources

Function

Environmental assessment, Permitting, Transportation construction programs, Program management, Transportation planning

Source

WSDOT Environmental Affairs Office

Business Need

24

Title

Communicate and Analyze Habitat Along Roadway

Description

In order to evaluation the evolution of the habitat relationship with the roadways "habitat connectivity" infrastructure may need to be part of WA-Trans.

Audience

WSDOT, Counties, Cities, Washington Department of Natural Resources

Function

Environmental assessment, Permitting, Transportation construction programs, Program management, Transportation planning

Source

WSDOT Environmental Affairs Office

Business Need
25

Title
Communicate and Analyze Park & Rides and Connecting Routes

Description
WA-Trans should include Park & Rides, including lights and pavement conditions by location; they need data regarding Park & Rides. Need to analyze direct access to and from Park & Rides to other systems. Not all Park & Rides belong to WSDOT or are maintained by them. The City of Seattle Department of Transportation manages a car pool parking program that may also be useful as part of sharing data about Park & Rides.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Kitsap Transit, Community Transit

Function
Transportation planning, Transit, Transportation construction programs, Commute trip reduction, Employment organizations

Source
WSDOT Program Management, WSDOT Urban Corridors, WSDOT Transportation Demand Management Office, City of Seattle Department of Transportation

Business Need
26

Title
Communicating Project Plans with Public, Various Road Authorities and Other Stakeholders

Description
WSDOT Urban Corridors projects have co-lead agencies. The leads are jointly responsible for the project. These projects are multi-modal. They also are sharing data with differing levels of government and different modes. Generally hiring a contractor who collects the data for scoping does data collection and then it is thrown away. There is not a place to update data. Each project costs between $15,000 and $20,000. Additionally there is a need to share Transportation construction project plans with the public and with developers. Providing maps with the data and showing it in relation to where they live/work has the most impact.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Kitsap Transit, Community Transit

Function
Transportation planning, Public works, Public communications, Transit, Program management

Source
WSDOT Urban Corridors, WSDOT Program Management

Business Need
27

Title
Integrate Multi-modal Transportation Options

Description
This was stated as "Integrating WSF terminal data with roads, bike paths, rails, bus systems, water-based travel that leads to ferry terminal including traffic data". And "need to be able to evaluate how arterials and ferry terminals interface with the State roadway system and how traffic is moved between them". This need could be extended to say that all modes need to be combined for analysis of transportation patterns for transportation planning.

Audience
WSDOT, Counties, Cities, Puget Sound Regional Council, Kitsap Transit, Community Transit

Function
Transportation planning, Transit

Source
WSDOT Ferry Terminal Engineering, WSDOT Urban Corridors

Business Need
28

Title
Data for Terminal Planning Analysis and Communication

Description
Washington State Ferries is considered part of the state highway system. When they are looking at modifying or building a terminal they need a great deal of data. They need to know the roads and other transportation converging on a location.

Audience
WSDOT

Function
Transportation planning, Ferry planning

Source
WSDOT Ferry Terminal Engineering

Business Need
29

Title
Notification of Ferry Neighbors

Description
WSF needs address and routing information for businesses and homes around ferry terminals for notification purposes when there is closure, noise or some special transportation issue.

Audience
WSDOT

Function
Washington State Ferries, Emergency Management

Source
WSDOT Ferry Terminal Engineering

Business Need
30

Title
Mapping, Analyzing and Communicating Traffic Flow

Description

WSDOT has an application on the Internet called the Puget Sound Traffic Flow Map, which gets heavy usage. It would be very good to expand the boundaries of this beyond the state highway system and show other congestion. The drivers don't care who is responsible for the road. They just want to know where to avoid. Specific information about freight flows would be very useful to freight and freight planning.

Audience
WSDOT, Counties, Cities, Kitsap Transit, Community Transit, Strategic Freight Transportation Analysis Project

Function
The public

Source
WSDOT IT (TRAC) Office, City of Seattle Department of Transportation, Strategic Freight Transportation Analysis Project

Business Need
31

Title
Coordinated dispatch of on-demand transportation

Description
There is a need for social service providers to facilitate coordinated dispatch and scheduling for demand response rides provided for ADA individuals. There is a need to link trips on demand using a pool of different transportation providers and routes for a particular day so transportation can be arranged as needed with a single call. The idea is to provide a call center for this purpose.

Audience
WSDOT, Counties, Cities

Function
Social Services, The public

Source
WSDOT Public Transportation Office

Business Need

32

Title

Drainage system features and routes from all roadways

Description

There are many potential interfaces for drainage feature data to be shared between the WSDOT and county and city government organizations. When there is a chemical spill on the roadway local jurisdictions need to know the drainage so they can determine the impact to their water, lands and emergency services. Some of WSDOTs culverts and other drainage features cross county and municipal roads and their state of repair affects the roadway they cross. This information is also used to plan for emergencies with local fire and police. There is also county and municipal drainage that goes into WSDOT right-of-way, roadways and other transportation features that impact WSDOT maintenance. Another use of this information is during project scoping both by WSDOT and county and city public works. Drainage feature information is needed along the roadway and where it goes is also needed.

Audience

WSDOT, Counties, Cities, Washington Department of Ecology

Function

Public works, Emergency services, Washington Department of Ecology, WSDOT

Source

WSDOT Maintenance and Operations

Business Need

33

Title

Inventory data of features along the roadway

Description

This is a fixed Asset Inventory – GASB 34 Compliance (General accounting requirements for Road Authorities). While this is largely an internal function there are roadway features that belong to WSDOT that are located off the state highway system and off WSDOT right-of-way. Most freeway ramp intersections have one set of traffic signals owned by WSDOT and the other owned by the controlling local municipality or county. These items need to be located and this data shared. Also WSDOT make arrangements for municipalities to maintain features on some state routes through that city. An example of this is the service agreement with the city of Federal Way to

maintain drainage features along SR99 through Federal Way. WSDOT needs to track maintenance of these items. There are also county and city features along the state road system that may require the same information for those agencies.

Audience
WSDOT, Counties, Cities

Function
Public works, Engineers, Maintenance, Asset management

Source
WSDOT Maintenance and Operations

Business Need
34

Title
Snow removal routes and features along the route

Description
WSDOT does snow removal work for the National Parks and State Parks. They have responsibilities regarding care of specialized guard rails along the routes that are owned and maintained by the parks service but can be affected by the plowing. Tracking these routes and features and sharing data with the State and National Parks to do so would be useful.

Audience
WSDOT, Washington State Parks, National Parks Service

Function
Park services road maintenance, state maintenance

Source
WSDOT Maintenance and Operations

Business Need
35

Title
Information about activities on all roadways to answer customer calls

Description
Many taxpayer and others with questions are comments about roads don't know about local transportation organization but they do call WSDOT or vise versa. It would be very helpful to have data about roads closing, contacts in other organizations, roadways and features for answering questions without regard to jurisdiction.

Audience
WSDOT, Counties, Cities

Function
Public communications, chamber of commerce, Counties, Cities, WSDOT, Washington State Patrol

Source
WSDOT Maintenance and Operations

Business Need
36

Title
Mapping using Address Matching

Description
A fundamental use of the transportation network will be location determination by address. Virtually every agency/party employing GIS technology has some need to geo-code data to a street address. Many address data structures exist. A viable and widely employed model might be that used by the U.S. Census Bureau for TIGER.

Audience
Transit, Counties, Cities, King County Emergency Management, Washington E-911, Bureau of Census, WSDOT

Function
Transit, Counties, Cities, Emergency Management, E-911, Economic Development, Census Gathering and Analysis, Transportation Planning, Public Communication, Environmental Analysis, Utilities

Source
Community Transit, Seattle Public Utilities

Business Need

37

Title
Map Production

Description
Organizations must meet the need to produce basic cartographic products. This functionality includes geometry, accuracy, and topological integrity.

Audience
Federal Government, State Government, Regional Government, Local Government, Public

Function
Base Mapping, Public records

Source
Counties, Cities

Business Need
38

Title
Roads Inventory to CRAB (County, Tribal, City, State)

Description
County Road Authorities maintains records of maintained roads with inventory information (pavement type, pavement width, functional classification, ADT) that is used to determine gas tax allocation. BIA is also collecting an inventory of Tribal Roads City Roads, County and State inventory is needed for Federal Classification

Audience
WSDOT, Counties, County Road Administration Board, Federal Highway Administration, Bureau of Indian Affairs, Tribal Government, Strategic Freight Transportation Analysis Project

Function
Public works, County Engineers, Transportation construction projects, WSDOT Transportation Data Office, Bureau of Indian Affairs, Tribal Governments, Federal Highway Administration

Source
Counties

Business Need
39

Title
Event Location Analysis and Mapping (Geocoding/Address-matching)

Description
Various event databases are maintained which reference street addresses or Road Number and Milepost. Mapping and analysis of these events is critical to management of transportation resources.

Audience
WSDOT, Counties, Cities, County Road Administration Board, Strategic Freight Transportation Analysis Project, Public Access

Function
Public works, County Engineers, Transportation construction projects, Project Scoping, Project Design

Source
Counties

Business Need
40

Title
Public Access to Records

Description
County Road Authorities are statutorily required to keep records of all roads within their jurisdiction, and to provide those records to the public.

Audience
Counties

Function
County Engineers

Source
Counties

Business Need
41

Title
Coordinate Ferries Schedules with Traffic Management

Description
The City of Seattle Department of Transportation currently has some coordination of traffic lights with ferries arrival on Coleman Dock. It would be useful to expand this to all ferry routes and have this integrated into any routing done in WA-Trans.

Audience
WSDOT, Counties, Cities, Emergency Management, E-911

Function
Public Works, Departments of Transportation, Emergency Management, E-911

Source
Seattle Department of Transportation

Business Need
42

Title
Expansion of Lifelines Statewide

Description
King County Emergency Management has developed a GIS in support of "lifelines". A lifeline is a combination of critical facilities (hospitals, schools, etc.) connected by routes, which can be repaired quickly (within 24 hours) with local things. The goal is that all parties have the same priorities after an emergency event. They need to know where trains are and ferries are as part of this effort.

Audience
WSDOT, Counties, Cities, Emergency Management, E-911

Function
Emergency Management Organizations, E-911, Counties, Cities, Police, Fire

Source

King County Emergency Management

Business Need

43

Title

Determination of Evacuation Routes

Description

In a major emergency evacuation routes must be identified and communicated. In planning for an emergency potential evacuation routes must be determined. Software must support changing these routes based on type of emergency, location of emergency and condition of the evacuation routes.

Audience

WSDOT, Counties, Cities, Emergency Management, E-911

Function

Emergency Management Organizations, E-911, Public Works, Transportation, Police, Fire, Public Communication

Source

King County Emergency Management

Business Need

44

Title

Access into a Disaster Area

Description

In a disaster or major emergency it is necessary to bring people and supplies into the disaster zone. For Washington this can include over mountain passes in snow. Planning for such an even includes modeling possible routes for bringing in emergency assistance, National Guard, FEMA and other organizations needed. Then in an actual event determination of which routes to use and communication of such routes is necessary. WA-Trans can facilitate determining access into a disaster area.

Audience

WSDOT, Counties, Cities, Emergency Management, E-911

Function
Emergency Management, E-911, Relief Organizations, Military, Transportation Organizations, Counties, Cities

Source
King County Emergency Management

Business Need
45

Title
Crossing Safety

Description
Using information about specific characteristics about grade crossings, roadway characteristics, traffic counts, and train operations, WUTC and WSDOT Staff are able to conduct accident prediction and other hazard analysis for resource allocation and safety improvements. The data will also assist field inspectors to review crossings for safety improvements, including signal upgrades, crossing surface needs, and related regulatory duties. Crossing defects can be tracked, and railroad company repair performance can be analyzed.

Audience
State Government, Local Government

Function
Safety Analysis, Inspection Priorities, Resource Allocation, Compliance Actions

Source
Washington Utilities and Transportation Commission

Business Need
46

Title
General Railroad Safety Inspections

Description
Using information about rail line locations, commodities hauled, train counts, and other operational information, inspections involving hazardous materials, track, and operation

practices can be targeted, planned and optimized. Accidents and HAZMAT releases can be tracked to identify safety problems.

Audience
State Government, Local Government

Function
Safety Analysis, Inspection Planning, Hazard Reduction

Source
Washington Utilities and Transportation Commission

Business Need
47

Title
Trespass Reduction

Description
Using transportation system information including track location and operations, trespass accidents can be plotted, and areas targeted for engineering, enforcement and education efforts.

Audience
State Government, Local Government

Function
Safety Analysis, Hazard Reduction

Source
Washington Utilities and Transportation Commission

Business Need
48

Title
Accurate centerline and right-of-way line work.

Description
The WUTC issues Certificates of Public Convenience and Necessity. These certificates are a property right. They are described in metes and bounds, and roads may be the

boundary used in the legal description. It is very important that the location of the line work is accurate.

Audience
State Government, Local Government

Function
Property Right descriptions of franchise service areas.

Source
Washington Utilities and Transportation Commission Solid Waste Section

Business Need
49

Title
Location of specific addresses (geo-coding).

Description
The WUTC-regulated companies can provide solid waste services within specific geographic areas. The location of a specific address is needed to determine which company has the rights to service at a particular location.

Audience
State Government, Local Government

Function
Consumer affairs, Public affairs, Customer notice, Compliance, Accounting, Auditing, Policy

Source
Washington Utilities and Transportation Commission Solid Waste Section

Business Need
50

Title
Who can provide utility services at a specific location? (Geo-coding)

Description
The WUTC regulates multiple utility and transportation companies. Consumers often

inquire about which companies provide services where they live. A geo-coded street layer would allow consumers to get answers to those questions. A variety of utility information could be included. The Tulalip Tribe would specifically like water supply and wastewater information geocoded. The Tulalip Utilities Authority regulates the water supply, treatment and transmission derived from its governmental status as a federally recognized Indian Tribe organized pursuant to Section 16 of the Indian Reorganization Act of 1934, and as provided in Article VI Section I of the Tribes duly adopted Constitution. Consumer knowledge about water and wastewater services is necessary for planned development, whether it be the Tulalip Tribes or a private landowner on fee simple lands. Location of fire hydrants of tribal utility services should be identified for public safety decision makers.

Audience
State Government, Local Government, The Tulalip Tribes

Function
Public

Source
Washington Utilities and Transportation Commission Solid Waste Section, Tulalip Utilities Authority and Tulalip Tribes' Community Development Department

Business Need
51

Title
Street Names

Description
The WUTC issues Certificates of Public Convenience and Necessity. These certificates are a property right. They are described in metes and bounds, and roads may be the boundary used in the legal description. We need street names in the roads layer so we can describe the boundary accurately.

Audience
State Government, Local Government

Function
Property Right descriptions of franchise service areas

Source
Washington Utilities and Transportation Commission Solid Waste Section

Business Need

52

Title

Unimproved or Temporary Roads

Description

The WUTC Pipeline Safety Division is required under RCW 81.88.080 to assist local governments in obtaining hazardous liquid and gas pipeline location information and maps. We are also obligated to develop a GIS that is sufficient to meet the needs of first responders.

Audience

State Government, Local Government

Function

Pipeline access points, Construction inspections, Possible evacuation routes

Source

Washington Utilities and Transportation Commission Pipeline Safety Division

Business Need

53

Title

Navigable Waterways and Port Facilities

Description

Considerable freight traffic moves throughout Washington's navigable waterways (Columbia and Snake River system, ocean ports in Seattle and Tacoma), thus complementing Washington's efficient multi-modal transportation system (truck, rail, barge). Much of this freight, especially for traffic along the Snake and Columbia River system, is traffic, which would otherwise be shipped via rail or truck when barge access is constrained from lock maintenance, or river draw downs thus adding to an already constrained highway system. WSDOT planners and freight policy analyst could benefit from the analytical capabilities of a GIS coverage of all the state's navigable waterways, locks and port facilities. This would be especially useful identifying shipper costs and highway impacts due to river passage restrictions.

Audience

WSDOT, Strategic Freight Transportation Analysis Project

Function
Transportation Planning, Freight Policy, Strategic Freight Transportation Analysis Project

Source
WSDOT Freight Policy and Planning, Strategic Freight Transportation Analysis Project Snake and Columbia River System

Business Need
54

Title
Geo-Coded Freight Truck Flows

Description
A statewide freight origin and destination truck survey was conducted in 1993-1994 and again in 2002, at 30 selected sites across the state. Detailed information concerning individual truck-trips, commodities, truck configurations, origins, destinations and specific routes for all highways will be incorporated into a GIS and available for highway planners, modelers, and policy analyst.

Audience
WSDOT, Strategic Freight Transportation Analysis Project, Freight Mobility Strategic Investment Board

Function
Transportation Planning, Freight Policy, Strategic Freight Transportation Analysis Project

Source
WSDOT Freight Policy and Planning, Strategic Freight Transportation Analysis Project

Business Need
55

Title
Freight Goods and Transportation System Updates

Description
WSDOT must comply with federal (FHWA) requirements under the Highway Performance Monitoring System and state legislation (RCW 47.05.021) and identify

Washington's freight and goods network and the usage of this network over time. Truck freight data is captured for state highways (1,450 count locations), county roads (CRAB), and city streets (AWC) and compiled to develop the state level freight planning and forecasting model framework and provide the different tonnage classifications (T1-T5) for all highways. Highway planners, freight policy analyst, counties, cities and other transportation and economic development interests utilize this information.

Audience
WSDOT, Strategic Freight Transportation Analysis Project, Freight Mobility Strategic Investment Board

Function
Transportation Planning, Freight Policy, Strategic Freight Transportation Analysis Project

Source
WSDOT, Strategic Freight Transportation Analysis Project

Business Need
56

Title
Washington State Transportation Data for the National Map

Description
The USGS National Map Project needs the most efficient way to access data. Currently the data the National Map Project will use will come from local data sources with individual agreements for each. WA-Trans would maintain those agreements and provide one source for the transportation data for the National Map, thus simplifying the process and cost of gathering and maintaining the data significantly.

Audience
All Government, Public

Function
National Map Production, General Public, Businesses, Tourists

Source
US Geological Survey

Business Need

57

Title

Tracking Fisheries Information Related to Road/Water Structure

Description

The IRICC Hydrography and Transportation teams identified a business requirement for tracking fisheries information related to road/water structures. This information relates to fish passage regarding roads structures and stream intersections. This information would be tied to dams, culverts, crossings, etc. Fisheries biologists have not specifically identified what this information would be, but a general understanding of its nature is generally understood at this time. The IRICC Hydrography and Transportation teams discussed which coverage would be better suited to tie this to. The decision involved several components, but the fact that the transportation data would be more accurate provided the best reason to hold this cross-coverage information there.

Audience

US Forest Service, US Department of Interior

Function

Fish management, Hatcheries, Environmental Assessment

Source

Regional Ecosystem Office

Business Need

58

Title

Access to historical versions of WA-Trans

Description

For comparison purposes there is a need to store versions of WA-Trans for each specific time period to facilitate historical modeling, comparisons and analysis.

Audience

Metropolitan Planning Organizations, Regional Transportation Planning Organizations, WSDOT

Function

Transportation Planning, Transportation Data Collection

Source
Puget Sound Regional Council

Business Need
59

Title
Compatibility with Related Transportation Frameworks

Description
WA-Trans must be able to exchange data with Transportation Frameworks from Oregon, Idaho and British Columbia, Canada. It must also be compatible with the GeoSpatial One-Stop Transportation Model.

Audience
WSDOT, FHWA, USFS, USGS

Function
Inter-state Transportation Planning, Data Communication, Transportation Data Collection, Transportation Project Funding

Source
Bureau of Transportation Statistics, Oregon Department of Transportation, Interregional Information Coordinating Council, USGS

Business Need
60

Title
WA-Trans Metadata

Description
Federal Geographic Data Committee Standard for describing data geospatial data. This is data that describes the data content of WA-Trans, including data quality, data sources, entities, attributes, applicable time periods of content, and processing steps.

Audience
All

Function
All

Source
Literature

Business Need
61

Title
Designate Indian Reservation Roads Explicitly

Description
Federal law requires consultation with tribal nations in long range transportation planning. Additionally it can be cost beneficial to coordinate planning, development, construction and maintenance of Indian Reservation Roads (IRR) and other local, county and state roads as they are frequently shared and have similar needs. Using WA-Trans to illustrate that would facilitate the consultation process and coordination efforts.

Audience
WSDOT, County and Local Governments, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Tribal Nations, BIA

Function
Transportation Planning, Transportation Project Funding, Transportation Project Scoping and Design, Transportation Maintenance, Transportation Operations

Source
EWU TTAP, Makah Transportation Planning, BIA

Business Need
62

Title
Identifying Alternate Sources for Roads Funding

Description
There are a variety of sources of funding for work on roads depending on where they are located. If the roads in WA-Trans were categorized based on what type of funding they were eligible for there may be opportunities for funding that are not currently tapped. These include: State, FHWA, Public Lands Highways, Park Roads and Parkways, IRR, and National Wildlife Refuge System under the Federal Lands Highway

Program and United States Department of Interior.

Audience
WSDOT, County and Local Governments, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Tribal Nations

Function
Transportation Planning, Transportation Project Funding, Transportation Project Scoping and Design, Transportation Maintenance, Transportation Operations

Source
EWU TTAP, Makah Tribe Transportation Planning, BIA, Tulalip Tribes Community Development Department

Business Need
63

Title
Identification of Potential Partners in Transportation Planning

Description
Various road authorities and other interested parties can assist with planning and funding of roadwork. Many of these parties could be identified easily if road authorities were clearly identified with WA-Trans.

Audience
WSDOT, County and Local Governments, Metropolitan Planning Organizations, Regional Transportation Planning Organizations, Tribal Nations

Function
Transportation Planning, Transportation Project Funding, Transportation Project Scoping and Design, Transportation Maintenance, Transportation Operations

Source
EWU TTAP, Tribal Transportation Planning

Business Need
64

Title
Current and Historic Zoning Maps

Description
Current and historic zoning is mapped to the center of the road. Many county departments for planning purposes use this.

Audience
County and Local Governments

Function
Planning

Source
Pierce County

Business Need
65

Title
Address Geocoding of Crime Incidents

Description
The Sheriff's department routinely maps crime incidents to monitor changes in crime patterns and estimate the resources needed for particular areas.

Audience
County and Local Governments

Function
Analyze Crime Patterns, Estimation of Resources

Source
Pierce County

Business Need
66

Title
Voter Mapping for the Auditor

Description
The Auditor geocodes voter locations and this information is provided to the candidates. This work is also used for re-districting efforts.

Audience
County and Local Governments

Function
Re-districting, Candidate Research

Source
Pierce County

Business Need
67

Title
County Addressing

Description
The County addressor maintains the centerline and address information for the county in order to provide valid address information to other departments and citizens.

Audience
County and Local Governments

Function
Attribute Maintenance

Source
Pierce County

Business Need
68

Title
Address Lookup

Description
Many county departments utilize the GIS system to view information at an address. The address is geocoded to the road centerline/address file. Once the address is located other data themes and data sets are viewed. Utilized by all county departments.

Audience
County and Local Governments

Function
Locating

Source
Pierce County

Business Need
69

Title
County Atlas

Description
The County road atlas is a digital and paper product that is produced to show the public and private roads in the County. Scale is 1"=2000'.

Audience
County and Local Governments

Function
Cartography

Source
Pierce County

Business Need
70

Title
Traffic Count Locations

Description
Map of the traffic count locations with a link to the data records on those counts. This data set is then analyzed to show changes in traffic volumes versus estimated volumes.

Audience
County and Local Governments

Function
Analysis--Level of service

Source

Pierce County

Business Need

71

Title

Mapping of CRIS Information

Description

The County Road Inventory System (CRIS) is a large database of road characteristics. From this database maps and reports are generated and provided to federal and state agencies. The road centerline file is linked via dynamic segmentation to the CRIS records.

Audience

County and Local Governments

Function

Analysis and Reporting

Source

Pierce County

Business Need

72

Title

Accident Mapping

Description

County road engineers have a database of accident information that is linked and mapped on the road centerline file. This is a countywide database that shows historical records.

Audience

County and Local Governments

Function

Analysis--Determination of dangerous road segments and intersections

Source
Pierce County

Business Need
73

Title
County Transportation Improvement Plan

Description
The TIP shows the estimated road improvements for future years. This document is used for budgeting purposes. The proposed improvement are mapped at a scale of 1"=2000' and are linked to the tabular database as well as symbolized in the map product.

Audience
County and Local Governments

Function
Road Construction

Source
Pierce County

Business Need
74

Title
Right-of-Way Feature Inventory

Description
Inventory of signs, guard rails and drainage features are in a database that can be mapped along with the road. This helps maintenance crews and planners determine project requirements.

Audience
County and Local Governments

Function
System Maintenance

Source
Pierce County

Business Need
75

Title
Pavement Management

Description
Pavement management is a large topic that encompasses the capture of pavement conditions, the rating of pavement failure and prioritizing future road surfacing projects. For all of these efforts the road centerline is utilized and data mapped to the road network to show characteristics for pavement management.

Audience
County and Local Governments

Function
Road Maintenance

Source
Pierce County

Business Need
76

Title
Vegetation Spray Areas

Description
Map showing areas to spay and area not to spray. This information is based on road maintenance records and can be mapped to the centerline file.

Audience
County and Local Governments

Function
Right-of-way Maintenance

Source
Pierce County

Business Need
77

Title
Snow Route Mapping

Description
Snow route maps are developed for each of the road maintenance areas and allows the road shops to view their territory as well as surrounding districts. This data is used to dispatch snow crews and coordinate work across the county.

Audience
County and Local Governments

Function
Road Maintenance

Source
Pierce County

Business Need
78

Title
Non-motorized Transportation Plan

Description
The Non-motorized transportation plan is a guide for bicycle, pedestrian and equestrian travel. Maps display existing and proposed facilities. Maps aid travelers in choosing appropriate travel routes. The County arterial roadway map is used as a base map.

Audience
County and Local Governments

Function
Transportation Planning

Source

Pierce County

Business Need
79

Title
County bridge locations

Description
Map showing the bridge locations in the County. 1"=2000'

Audience
County and Local Governments

Function
Bridge Maintenance and Emergency Route Planning

Source
Pierce County

Business Need
80

Title
Intersection Improvement Maps

Description
At engineering scale (1"=50') map of intersections and improvement needed.

Audience
County and Local Governments

Function
Road Construction

Source
Pierce County

Business Need

81

Title

Emergency Management Event Mapping

Description

Mapping of emergency events that could be a point location at an address, a road segment that is closed, an area that is flooded. The road centerline file is used as a backdrop to plan response and recovery.

Audience

County and Local Governments

Function

Emergency Route Planning

Source

Pierce County

Business Need

82

Title

Geocoding County Data

Description

GIS geocoding function is used to map various data sets such as: businesses, events, business licenses, jurors, crimes, and complaints. The road centerline file with address ranges is utilized as the base map and for the geocoding function.

Audience

County and Local Governments

Function

Locating

Source

Pierce County

Business Need

83

Title

Using road and road feature information in the effort to protect wildlife

Description

Road information can be useful in many ways for wildlife protection including: - Spotted Owl management requires understanding road density issues - miles of road per square mile of land; - Road densities influence deer and elk hunting. The more roads in an area, the more likely it is a hunter will succeed in killing a deer or elk; - Deer, elk, and numerous other animals are killed crossing roads, which affects population dynamics; - Slugs, snails and other small critters have a hard time crossing roads; hence roads can present a barrier to some species; - Fragmentation of habitat is influenced by roads in several ways. One is that the road can fragment habitat for some species. Another is that roads are required to access timber sales which affect habitat for some species like the spotted owl.

Audience

US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks

Function

Public Land Management

Source

US Forest Service

Business Need

84

Title

Supporting work on fish and related hydrography to roads

Description

Maintenance of fish species involves the use of road data and hydrography data. Here are some examples of how roads data helps this work: - Fish passage for resident and anadramous species is influenced by bridge and culvert design issues. - Fish spawning can be affected by sedimentation or other road related issues; - Poorly designed roadways or crossings can cause sedimentation, which covers nesting gravels with fine silts making them unusable by the fish.

Audience

US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks, WSDOT, Public Works and Roads Departments

Function
Public Lands Management Road Design, Construction and Maintenance

Source
US Forest Service

Business Need
85

Title
Supporting Tribal Treaty Rights

Description
Hunting and fishing is most commonly accessed by roads. Hunting and fishing are treating rights in many cases. Fish passage and habitat associated with roads can affect treaty rights.

Audience
US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks, WSDOT, Public Works and Roads Departments, Tribal Nations in Washington State

Function
Tribal Nations, Public Lands Management, Road Design, Construction and Maintenance

Source
US Forest Service

Business Need
86

Title
WA-Trans needs to support network analysis regarding moving forest products.

Description
Network analysis can be used to understand the efficiency of moving forest products around. Timber sometimes is moved long distances and haul routes are sensitive to

recreation and other issues.

Audience
US Forest Service, US Bureau of Land Management, WA DNR

Function
Public Lands Management, Private Timber Companies

Source
US Forest Service

Business Need
87

Title
Provide support to law enforcement in public lands management

Description
WA-Trans would support the following business processes: - Search and rescue dispatch and other emergency responses; - Enforcement of Special Forest Product and other permits. Examples are mushroom permits, bear grass collections, etc.

Audience
US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks

Function
Public Lands Management, Law Enforcement

Source
US Forest Service

Business Need
88

Title
Support in homeland security on public lands

Description
This is a new and emerging area for the Federal Government and may apply to some other levels of government as well. Issues include emergency response on public lands,

proximity of roads to pipelines, power lines, hazardous waste sites, toxic spills, bridges, etc.

Audience

US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks, WSDOT, Public Works and Roads Departments, WSP, Local Law Enforcement, WA EMD, Local PSAPs

Function

Public Lands Management, Road Design, Construction and Maintenance, Emergency Management, Law Enforcement

Source

US Forest Service

Business Need

89

Title

Fire Suppression Facilitation

Description

WA-Trans could assist with the fire suppression activities in the following ways: - Determining and following the quickest route to an arbitrary location where crews needs to be dispatched to on short notice; - Recording location of human caused fire starts along a road; - Determining whether a fire is suspicious by its proximity to a road; - Estimating fire "risk" based upon hazardous fuel loading data plus the probability of ignition, which is highest near roads.

Audience

US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks

Function

Public Lands Management

Source

US Forest Service

Business Need
90

Title
Facilitation of Public Land Management Engineering Activities

Description
Various public land management organizations have engineering sections, which do a variety of work that could benefit from WA-Trans. These include: - Locating and designing temporary and permanent roads for timber sales, campgrounds, etc.; - Recording locations of bridges, culverts, fords, and other stream crossings; - Recording locations of campground loops; - Locating, recording, and maintenance planning for bike, hike, equestrian, 4-wheel drive, and ATV trails; - Access to telecommunication sites like microwave stations, radio repeater stations, etc.; - Determining the best place to put fire observers and lookouts; - Planning and tracking of maintenance on existing roads, including records for Maintenance Levels and other operational data.

Audience
US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks

Function
Public Lands Management

Source
US Forest Service

Business Need
91

Title
Facilitation of Public Lands Management Development and Maintenance of Recreation

Description
Public lands management organizations provide recreational opportunities to the public. The following work can be facilitated by WA-Trans: - Recreation Opportunity Spectrum (ROS) planning for different types of recreational uses based on proximity to roads. Examples are "Roaded Natural", "Semiprimitive Recreation", and Roadless" areas; - Trail maintenance planning and implementation; - Planning and design for new recreation facilities like campgrounds, picnic areas, interpretive sites, viewpoints, etc.; - Scenery and viewshed analysis; - Maps for hunters, hikers, and other recreationists; - Horse, ATV and off-road vehicle uses.

Audience

US Forest Service, US Bureau of Land Management, National Parks Service, WA DNR, WA State Parks

Function

Public Lands Management

Source

US Forest Service

Business Need

92

Title

Phase II E-911 Cell Phone X,Y Coordinate Mapping

Description

For maximum benefit to the local E-911 call centers i.e., Public Safety Answering Points - PSAP's, the implementation of the FCC's Phase II Wireless regulations will require automatic GIS mapping capabilities within these centers in order to map the actual cell phone locational x,y coordinates that are going to be generated by these calls. This requires that WA-Trans support: 1 address geocoding, 2 linkage of x,y coordinates to other nearby GIS features (ex. road address segments, dispatch units, beat units, etc.) 3 the ability to geocode to digital ortho-photography for rural and wilderness related cell phone calls.

Audience

Washington State Patrol, WA Dept. of Military (EMD) Emergency Operations Center, Local PSAPs, local law enforcement, WSDOT, NIMA

Function

Emergency Management, Law Enforcement, Fire Response, Homeland Security

Source

Washington State Department of Military (EMD), Spokane County Fire Districts

Business Need

93

Title

AVL X,Y Coordinate Mapping

Description
AVL (Automatic Vehicle Location) data, provided by vehicles equipped with AVL technology can be combined with WA-Trans data to provide support in the following areas: fleet management - determining the most efficient routes and vehicle use, determine actual delivery costs, check employee on the road compliance; locating vehicles in an emergency - finding the X,Y coordinate, determining an addressing and dispatching emergency vehicles to the site using shortest path. This requires WA-Trans to have street centerline, address geocoding, and a dispatch network. This is also useful for fire response in dispatching fire trucks. Homeland security can use this technology to track vehicles, which might contain explosive or toxic materials to make sure they are being used properly.

Audience
Local Public Works Depts., Ecology, Health Departments, Washington State Patrol, Emergency Management Division, WA Emergency Operations Center, Local PSAPs, Local Law enforcement, WSDOT, NIMA

Function
Routing, Delivery Service, Permit Enforcement, Permit Issuance, Trash Collection, Emergency Management Vehicle Tracking, Law Enforcement Vehicle Tracking, Freight Management, & more!

Source
WA State Dept. of Military Emergency Management Division, Spokane County Fire Districts

Business Need
94

Title
Development and Maintenance of Street Names

Description
The Tulalip Tribes Community Development Department needs to consolidate street names and provide street names to unnamed roads. Several streets within the exterior boundaries of the Tulalip Indian Reservation have more than one name. They have a numeric name that provides ease for navigation. Some also have a second name that is a historic name. Others have no name but have residential addresses designating a nearby street. For navigating during emergency services, street names are crucial.

Audience
The Tulalip Tribes, Emergency Management

Function

All Tulalip Tribes Public Service Organizations, Visitors, Emergency Management

Source

Tulalip Tribes Community Development

Data Needs

Business needs were expressed which involved the use of this data in relationship to the transportation network across the State. These data items may not, in some cases should not, be part of WA-Trans. However WA-Trans may facilitate analysis by working with this data to assist in meeting specific business needs.

Data Category – This field is a high level category of various data elements that allows for development of "themes" of data, which can be goecoded into different layers in a GIS.

Specific Data – Individual data elements, which relate to the category that stakeholders want to see in relation to the transportation network. No detail is provided about these elements at this point.

Source of Need – The original organization requesting this data with the transportation data.

Business Function – The business function that may use this data or may contribute this data.

Framework Theme – Where a framework theme in Washington State has the data within its scope it is identified here.

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
Utilities	Gas line locations	WSDOT Project Engineers, WSDOT ITS (TRAC), WSDOT State Design Office, BOC	Transportation Construction	None
Utilities	Phone power lines	WSDOT Project Engineers, WSDOT ITS (TRAC), WSDOT State Design Office, BOC	Transportation Construction	None
Utilities	Wireless transmission	WSDOT Project Engineers, WSDOT ITS (TRAC),	Transportation Construction	None

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
		WSDOT State Design Office		
Utilities	Date and location about digging	WSDOT Olympic Region H&LP Engineer	Transportation Construction and Maintenance	None
Parcel Data	Ownership along roadways, railways, ferry terminals	WSDOT Project Engineers, WSDOT Rail Office, WSDOT Bridge Preservation Office	Transportation Construction, Maintenance and Operations, Emergency Management	Cadastral?
Parcel Data	Homes and businesses along projects and by ferry terminals and Geocoding to census geography	WSDOT Urban Corridors, WSF Terminal Engineering, BOC	Transportation Construction, Transportation Planning, Counties and Cities, Public	Cadastral?
Land Use	Zoning data including landmarks such as cemeteries, parks, military land	WSDOT Project Engineers, WSDOT Environmental Affairs Office, WSF Terminal Engineering, WSDOT Planning Office, BOC	Transportation Planning, Environmental Assessment, Transportation Construction, Commute Trip Reduction, Transit	None
Land Use	Urban Growth Boundaries	WSDOT Project Engineers, WSDOT Environmental Affairs Office, WSF Terminal Engineering, WSDOT Planning	Transportation Planning, Environmental Assessment, Commute Trip Reduction, Transit, Counties and Cities	None

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
		Office, BOC		
Land Use	Boundaries of "critical areas" such as burial grounds on tribal land	WSDOT Olympic Region Design, WSDOT Environmental Affairs Office	Transportation Planning, Environmental Assessment, Transportation Construction, Counties and Cities	None
Land Use	Historic sites (historic districts, bridges, and public lands	WSDOT Environmental Affairs Office	Transportation Planning, Environmental Assessment, Transportation Construction, Counties and Cities	None
Land Use	Community centers, school district locations and boundaries, weigh stations along roadways	WSDOT Program Management, WSDOT Design Office, BOC	Transportation Planning, Transportation Construction, Transit, Commute Trip Reduction, Counties and Cities	None
Land Use	Shore Master Permits along ferry terminals	WSF Terminal Engineering	Transportation Planning and Construction, Environmental Assessment	None
Land Use	Comprehensive along Ferry terminals	WSF Terminal Engineering	Transportation Planning and Construction, Environmental Assessment	None
Land Use	Structure centroids or footprints assist BOC with ability to incorporate GS technology into field	BOC	Census activities	None

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
	enumeration activities.			
Environmental	Location of well headers	WSDOT Olympic Region Design	Transportation Construction, Environmental Assessment	None
Environmental	Delineated wetlands location and buffer and environmental classification in project area or along roadway	WSDOT Olympic Region Design, WSDOT Rail Office, WSDOT Urban Corridors, WSDOT Maintenance and Operations	Transportation Construction, Environmental Assessment, Natural Resource Management	Hydrography
Environmental	Creek, stream, and river location and buffer and environmental classification in project area or along roadway, used as boundaries by BOC	WSDOT Rail Office, WSDOT Urban Corridors, WSDOT Olympic Region Design, WSDOT Maintenance and Operations, BOC	Transportation Construction, Environmental Assessment, Natural Resource Management	Hydrography
Environmental	Storm water treatment facilities and conveyances	WSDOT Olympic Region Design, WSDOT Environmental Affairs Office	Transportation Construction, Environmental Assessment, private business	None
Environmental	Drainage onto and off of project area	WSDOT Environmental Affairs Office	Transportation Construction, Environmental Assessment, Natural Resource Management	Hydrography
Environmental	100 year flow of water crossings	WSDOT Environmental	Transportation Construction,	Hydrography (potential/future)

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
	on project areas	Affairs Office, WSDOT State Design Office	Environmental Assessment	
Environmental	Species and natural resources around a ferry terminal	WSF Terminal Engineering	Transportation Construction, Environmental Assessment, Natural Resource Management	None
Environmental	Topographic and Bathymetric Data around ferry terminals	WSF Terminal Engineering	Transportation Construction, Natural Resource Management	Orthophoto
Economic Data	Business and Industry Locations along routes	WSDOT Planning Office, WSDOT Transportation Demand Management Office	Transportation Planning, Transit, Commute Trip Reduction, Transportation Construction, Environmental Assessment	None
Economic Data, Parcel Data, Land Use Data	Locations of social service providers, employment centers, medical care, day care providers, individuals using social services and transit routes	WSDOT Public Transportation Office	Transit, County, City, and State Social Service Providers	Cadastral? (Partially)
Transportation Data	Road signal locations	WSDOT Olympic Region H&LP Engineer	Transportation Planning, Transportation Construction, Transit, Route Planners, Emergency Management,

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
			Counties and Cities	
Transportation Data	Structures involved in collisions	WSDOT Olympic Region H&LP Engineer, Seattle DOT	Transportation Planning, Transportation Construction, County and Cities	None
Transportation Data	Collision locations	WSDOT Planning Office, WSDOT Transportation Data Office, Seattle DOT	Transportation Planning, County and Cities	None
Transportation Data	Various structures on county and cities roads (tunnels, bridges)	WSDOT Bridge Preservation Office, Seattle DOT	Counties, Cities, Emergency Management, Transportation Planning, Freight	None
Transportation Data	Traffic data for all modes including walking, bus, rails, water based travel, bikes, roads leaving state routes to arterials	WSDOT Urban Corridors, WSF Terminal Engineering, WSDOT Transportation Demand Management Office, Seattle DOT	Transportation Planning, Transportation Construction, Cities and Counties	None
Transportation Data	Pedestrian accident location data including: route location, road condition, traffic volume, speed, marked and unmarked cross walks, driveway locations, types of injury,	WSDOT Highways and Local Programs	Transportation Planning, Cities and Counties, Transportation Maintenance and Operations	None

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
	medians, left turn lanes			
Transportation Data	Railroad crossing data including: safety rating, status of rail line at crossing (active, inactive) rate of train crossing, time of day of crossings, average daily traffic at crossings, ownership of lines	WSDOT Rail Office, WSDOT Bridge Office, Seattle DOT	Transportation Planning, Transportation Maintenance and Operations, Freight, Counties, Cities, Emergency Management	None
Transportation Data	Road locations	Pierce County, WUTC	All	None
Transportation Data	Road ownership and management information (sometimes called road authority) including owner level, owner name, manager level, manager name	IRICC Core Data Standards (IRICC Roads Committee)	Transportation Maintenance and Operations, Environmental Assessment and Modeling, Freight, Federal Land Management	None
Transportation Data	Road Functional Classification, Functional Type	IRICC Core Data Standards (IRICC Roads Committee)	DOTs, county and local road management at all levels, Land Management at all levels	None
Transportation Data	Road quality and use information including	IRICC Core Data Standards (IRICC Roads	DOT's, county and local road management at all levels,	None

Data Category	Specific Data	Source of Need	Business Function	Framework Theme
	Road Status, Road Surface Type	Committee)	land management organizations at all levels	
Transportation Data	Address range on road segments	Pierce County, WUTC, Seattle Public Utilities	Environmental Assessment, County and local governments, Emergency management	None
Transportation Data	Routing System	Pierce County, City of Tacoma, Seattle Public Utilities	E-911, Local and County Governments	None
Transportation Data	CRIS characteristics data on roads that includes (type, name, width, functional class, speed limit, etc.)	Pierce County	Transportation Planning, Transportation Analysis, MPO, County and Local Public Works	None
Transportation Data	Transportation Plans including the STIP, various TIPs and Tribal TIPs	EWU TTAP, Makah Transportation Planning	Transportation Planning, Transportation Funding	None
Transportation Data	Designators for roads from the FHLP including Indian Reservation Roads	EWU TTAP, Makah Transportation Planning	Transportation Planning, Transportation Funding, Transportation Maintenance and Operations	None
Census	Population of communities through which state highways pass.	WSDOT State Design Office,	Transportation Planning, Transportation Construction	None